

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION

Infection Prevention Technologies, LLC,

Plaintiff,

v

Case No: 10-12371

Honorable Victoria A. Roberts

Lumalier Corporation,

Defendant.

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**ORDER GRANTING PLAINTIFF'S MOTION FOR  
SUMMARY JUDGMENT OF NON-INFRINGEMENT (DOC. #78)**

**I. INTRODUCTION**

Infection Prevention Technologies, LLC ("IPT") seeks a court declaration that its ultraviolet sterilization device does not infringe on Lumalier Corporation's patented ultraviolet sterilization device. The devices at issue sterilize rooms using radiation. Lumalier's patented device does this by measuring reflected radiation-- radiation that is reflected from items in an area. IPT's device measures a combination of reflected and direct radiation --radiation emitted from the device.

Six claims remain against Lumalier:

- I. Declaratory judgment of non-infringement on 6,656,424 ("424 patent")  
(Count One);
- II. Declaratory judgment of non-infringement on 6,911,177 ("177 patent")  
(Count Two);
- III. Declaratory judgment of non-infringement on 7,175, 806 patent (Count Three) (dismissed without prejudiced earlier because UVAS is a

necessary and indispensable party; and the Court does not have personal jurisdiction over UVAS);

- IV. Tortious interference with business relations: claim unrelated to patent infringement assertions (Count Four);
- V. Injurious falsehood, defamation and slander: claim unrelated to patent infringement assertions (Count Five);
- VI. False advertising under 15 U.S.C. 1125 (Count Six) (dismissed with prejudice earlier for failure to state a claim against Lumalier);
- VII. Tortious interference with business relations: claim related to patent infringement assertions (Count Seven); and
- VIII. Injurious falsehood, defamation and slander: claim related to patent infringement assertions (Count Eight).

The patents at issue are owned by Lumalier. After Counts Three and Six were dismissed, Lumalier filed a two Count counterclaim alleging that IPT directly and indirectly infringed on its '424 and '177 patents (the "patents"). Lumalier alleges that IPT's device infringes on claims one through nine, thirteen, and fourteen of the '424 patent; and, one through three of the '177 patent. Patent '177 is a continuation of patent '424; both patents include the same disclosures.

IPT moves for summary judgment; IPT says there is no patent infringement because its device measures both reflected radiation and direct radiation, and does not measure reflected radiation separately.

IPT's motion is **GRANTED**. There is no infringement of patents '424 and '177. IPT's device is not engineered to solely measure reflected radiation, as the Lumalier

device does.

Lumalier's counterclaims are **DISMISSED**.

Trial will proceed on Counts Four, Five, Seven, and Eight of IPT's amended complaint.

## **II. BACKGROUND**

### **a. Description of the Device and the Alleged Infringing Device**

The specifications in the patents say that when Lumalier's device is first powered on and safe to operate, it emits ultraviolet rays -- radiation from mercury bulbs -- which kill bacteria. These radiation rays hit objects in the room and reflect back to the eight sensors on the device. The device powers off when a room is sterile.

The device knows how much radiation to emit based on its measurement of reflected radiation from items in a room.

The sensors transmit this information to the BASIC Stamps, which is the device's program. The program determines the duration that the device should emit radiation and the minimum cumulative voltage necessary to kill bacteria in the room. This determination is called the bactericidal dose.

The device emits the radiation necessary to kill the bacteria. The sensors continuously receive reflected radiation from the room, convert the reflected radiation to a voltage reading, and transmit the voltages to the device's program.

When the program determines that the amount of radiation received by each sensor reaches the pre-determined cumulative minimum to kill the bacteria -- bactericidal dose -- it turns the device off.

IPT developed its own device which does essentially the same thing: sterilizes

rooms using radiation. It employs the same technique described above, except IPT's device measures both direct and reflected radiation to determine the amount of radiation necessary to sterilize a room.

**b. What is Not in Dispute**

This is undisputed: (1) Lumalier's device, which is covered by the patents, is engineered to only measure radiation that is reflected from objects in a room; not radiation emitted from the device; (2) the patents were issued specifically because of the device's ability to measure only reflected radiation to sterilize a room; (3) Lumalier owns an exclusive license to the patents, making it the only company which makes and distributes the device; and (4) IPT's device cannot differentiate between reflected and direct radiation and is engineered to measure both.

**III. STANDARD OF REVIEW**

The Court will grant summary judgment "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250-57 (1986). On a motion for summary judgment, the facts must be viewed in the light most favorable to the non-moving party. *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

A fact is material for purposes of summary judgment if proof of that fact would have the effect of establishing or refuting an essential element of the cause of action or a defense advanced by the parties. *Kendall v. Hoover Co.*, 751 F.2d 171, 174 (6th Cir. 1984).

**IV. ANALYSIS**

An analysis of patent infringement involves two steps. First, a claim is construed without regard to the accused product -- claim construction. Claim construction determines “the meaning and scope of the patent claims asserted to be infringed.” *Markman v. Westview, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). Second, the claim is compared to the accused product to determine whether all of the limitations of the claim are present either exactly or equivalently. *Id.* Infringement may be found only if “every limitation set forth in a claim [is] found in an accused product or process exactly or by a substantial equivalent.” *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577, 12 U.S.P.Q.2d (BNA) 1382, 1384 (Fed. Cir. 1989) (citations omitted).

The Court conducted a *Markman* hearing and issued its Order on August 8, 2012, defining numerous terms which the parties said were pertinent to the litigation.

Now, the Court compares the patent claims to IPT’s device to determine whether it infringes. Despite the many terms that were argued at the *Markman* hearing and defined in the Court’s Order, the parties’ summary judgment dispute turns on the meaning of one term: “reflected radiation.”

All alleged infringed claims include -- directly or by reference -- the term “reflected radiation,” or an equivalent of the term.

All alleged infringed claims say reflected radiation is “measured,” except claim fourteen of the ‘424 patent which uses “receive” instead of “measure.” It says “at least one ultraviolet-C radiation sensor that is positioned relative to said at least one ultraviolet-C emitter to receive only reflected ultraviolet-C radiation.”

# **1. Literal Infringement**

IPT’s device would literally infringe if it includes every claim limitation that is

included in the asserted claims. *Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1316 (Fed. Cir. 1999) (stating that "an infringement analysis requires that the patentee prove that the accused device embodies every limitation in the claim, either literally, or by a substantial equivalent"). If "one claim limitation is missing or not met, there is no literal infringement." *MicroStrategy Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1352 (Fed. Cir. 2005)(citing *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1211 (Fed. Cir. 1998)).

IPT says there is no literal infringement for these reasons: (1) the alleged infringed claims require that the device use only reflected radiation -- whether measured or received -- to determine the dose of radiation necessary to sterilize a room; and (2) IPT's device receives and measures direct and reflected radiation, and cannot distinguish between the two.

Even the testimony of Lumalier's expert, Dr. Peters, is that both reflected radiation and direct radiation are received by IPT's device. And, Dr. Peters testifies that IPT's device cannot determine the difference between the two:

Q. My question for you is -- sir, is, how does the IPT device determine the quantity of light that's reflected off of the items in the room versus light [sic] that [sic] from the lamp to the sensor assembly itself?

A. It can't tell the difference.

Lumalier does not dispute that a device which measures both reflected and direct radiation, and which cannot distinguish between the two, does not infringe. And, Lumalier does not dispute that IPT's device cannot measure reflected radiation separate from direct radiation. Rather -- and despite Dr. Peters' testimony -- Lumalier disputes that IPT's device measures direct radiation. Lumalier says IPT's device only receives and measures reflected radiation. Lumalier says: (1) the emitted radiation received and

measured by the device is reflected radiation, not direct radiation; and (2) even if the emitted radiation is direct radiation, “the device can operate in a manner in which a baseline radiation level is always established, meaning that the device is always measuring reflected radiation.” Alternatively, Lumalier says that if the batteries die in IPT’s device, it only measures reflected radiation and not direct radiation, and thus infringes.

**a. IPT’s Device Receives and Measures Reflected and Direct Radiation**

**i. Radiation Transmitted to the Sensor is Direct and Not Reflected Radiation**

Lumalier says the emitted radiation, which is received and measured by IPT’s device is not direct radiation because the radiation makes contact with other parts of the device before being transmitted to the sensor. Lumalier says that radiation transmitted to the sensor in this fashion is reflected radiation; and thus, IPT’s device only receives and measures reflected radiation. It says a jury should decide whether this radiation is reflected radiation.

Lumalier’s argument is unavailing since IPT’s device is engineered such that all radiation -- direct and reflected -- must make contact with other parts of the device before being transmitted to the sensor. Further, what is reflected radiation has been construed by the Court.

Radiation ***transmitted*** from one part of the device to another part, is not reflected radiation. At claim construction, the Court said reflected radiation is “radiation that is reflected from items in an area as opposed to radiation from the UV-C device directly.”

*Infection Prevention Techs., LLC v. Lumalier Corp.*, No. 10-12371, 2012 U.S. Dist.

LEXIS 111231,\*59 ( E.D. Mich. Aug. 8, 2012). The Court also found that “the specification explicitly disavows any construction of reflected radiation that would include radiation directly emitted from the device.” *Id.* at \*23. The critical distinction between direct and reflected radiation is whether radiation has made impact with other items in the room; and, whether the device measures reflected radiation apart from direct radiation to calculate the bactericidal dose. Lumalier appreciated this distinction during patent prosecution:

Sensors that measure reflected radiation, rather than measuring UV-C radiation that is emitted directly from the emitters, control the operation of the device. Operational control by measuring reflected radiation is novel and unique to the device. This feature is critical to effective disinfection of an area such as a room.

(Response to Official Action Dated April 8, 2003, p. 61).

There is no fact dispute: the radiation emitted from IPT’s device does not make impact with items in the room, but is used in conjunction with reflected radiation to determine the bactericidal dose. When asked specifically whether the IPT device quantifies reflected radiation apart from direct radiation, Dr. Peters says:

Q. What I asked you is, does [the IPT device] determine the quantity of the reflected light? Is the answer yes or no?

A. It doesn’t de- -- it doesn’t determine the quality – the quantity of reflected light apart from the light that’s impinging on the Teflon cap directly from the emitter at any given point in time.

Radiation emitted from IPT’s device is not reflected radiation merely because the radiation touches -- or is transmitted through the device -- before being received and measured.

Lumalier’s patents require that the sensors receive only reflected radiation and measure separately reflected radiation, that is radiation reflected from items in an area.



IPT's device receives and measures both direct and reflected radiation without distinction. Lumalier's unavailing argument does not create an issue of fact.

**ii. IPT's Device Does Not Measure Reflected Radiation Separately from Direct Radiation**

Lumalier says that even if IPT's device measures direct radiation, it still infringes, because over time the device can determine the amount of reflected radiation apart from direct. Lumalier also says that it can calculate the amount of reflected radiation that is emitted from and measured by the device.

Dr. Peters says:

Q: So you'll agree with me, then, that the sensor cannot determine the quantity of the amount that's reflected off of items in the room?

A: You know, yes and no. If -- if I were to take this device and put it in lots of different rooms and maybe not in a room and -- then I would be about to figure out what the -- kind of the baseline radiation was. That's always going to be the same. No matter where you put it, you're going to get the baseline radiation from the lamps.

As an initial matter, Dr. Peters' ability to ascertain the amount of reflected radiation has no bearing on the functionality of IPT's device or this litigation; pertinent to this analysis is only the device's ability. IPT's device receives and measures, but cannot determine the quantity of direct radiation apart from reflected radiation.

Even if the device could ascertain the amount of reflected radiation that is transmitted to it, no evidence shows that the device only measures reflected radiation in calculating its bactericidal dose. As the applicant explained during patent prosecution, in its specifications, and claims, the critical feature in the patent is the device's ability to measure reflected radiation to sterilize a room.

The Court holds that IPT's device does not solely receive or measure reflected

radiation, and there is no genuine dispute concerning this. There is no infringement here.

**b. IPT's Device is Not Capable of Receiving and Measuring Only Reflected Radiation**

Lumalier hypothesizes that if the batteries on IPT's device die, the device would receive no direct radiation, and would only measure reflected radiation. It says because IPT's device has the capacity to infringe, summary judgment is not warranted.

IPT does not dispute the feasibility of infringement; rather, IPT says Lumalier's scenario is too attenuated to constitute literal infringement. IPT says that its device is not engineered to operate in an infringing manner; there are no reports of its device functioning in an infringing manner. And, IPT says its warning label instructs users not to operate the device unless the batteries are charged. The Court agrees with IPT.

In *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, the Federal Circuit said literal infringement cannot rest on a possibility even though the product was reasonably capable of being put into a claimed configuration, absent specific instances of infringement. *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984 (Fed. Cir. 2009).

Through Dr. Peters' testimony, Lumalier concedes that no evidence shows that IPT's device has ever functioned in an infringing manner:

Q. [I]f the battery lamps are off, the – each battery lamp is surrounded by two Acpowered lamps, right?

A. Yes.

Q. So there would have to be an unusual situation where both the battery was off and for some reason the lamps to the left and the right of them did not turn on; is that fair?

A. That's correct, yes.

Q. And you have never seen one of those unusual situations occur in the field?

A. I've never seen any situation occur in the field.

Q. You've seen no evidence that indicates that such a situation has ever occurred in the field?

A. I have not.

Lumalier's hypothetical does not create a genuine dispute. Nothing in the record supports that IPT's device literally infringes.

## **2. Infringement by Equivalents**

"In applying the doctrine of equivalents, it is often enough to assess whether the claimed and accused products or processes included substantially the same function, way, and result." *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 161 F.3d 688, 692 (Fed. Cir. 1998).

Lumalier says infringement may be made out under the doctrine of equivalents because IPT's device measures over 99% of reflected radiation. It says Dr. Peters' expert report establishes that over 99% of the radiation measured by IPT's device, is reflected radiation, making less than 1% direct radiation. Lumalier says Dr. Peters' expert opinion creates a genuine fact dispute.

Lumalier cannot establish infringement by the doctrine of equivalents because its device was patented specifically because it measured 100% reflected radiation.

Alternatively, IPT says Dr. Peters' finding is not credible. IPT says that on December 21, 2012, Dr. Peters filed an expert report saying that 99% of radiation is reflected. But, on November 9, 2012 and January 3, 2013, Dr. Peters recanted his finding, saying that

it was not true and his finding was not possible. IPT says 40% of the radiation is direct.

The Court need not decide whether Dr. Peters' testimony creates an issue of fact because the doctrine of equivalents is inapplicable.

While infringement may be made out under the doctrine of equivalents if the limitation or limitations not literally present are there by equivalents, *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 795-96, 17 U.S.P.Q.2d (BNA) 1097 (Fed. Cir. 1990), a patentee cannot later invoke the doctrine of equivalents to "embrace a structure that was specifically excluded from the claims, after having "specifically identified, criticized, and disclaimed . . . a configuration. *SciMed Life Sys. v. Advanced Cardiovascular Sys.*, 242 F.3d 1337 (Fed. Cir. 2001)("Having specifically identified, criticized, and disclaimed the dual lumen configuration, the patentee cannot now invoke the doctrine of equivalents to "embrace a structure that was specifically excluded from the claims.").

During patent prosecution, Lumalier specified that reflected radiation means measuring and receiving no direct radiation. The patent examiner initially rejected all claims of '424 patent, saying sterilizing a room using reflected UV radiation was not novel. The applicant responded, saying that unlike prior art, its invention was novel because it only measured reflected and not direct radiation when determining the radiation necessary to sterilize a room. The applicant further distinguished its device from other science on the ground that each of its sensors only receive reflected radiation -- no direct radiation. The applicant also said that a device that receives both reflected and direct radiation is not novel unless it can differentiate between the two kinds of radiation when determining the bactericidal dose. The patent examiner found

the '424 patent allowable as amended.

The patent specifications also disclaim measuring any direct radiation. The patents specifications say, "By relying on reflected doses rather than direct exposure, the UVAS is able to sterilize or sanitize all surfaces within the rooms that are within view of an exposed wall or ceiling." The patent holder intended reflected radiation to mean no direct radiation. Lumalier is now precluded from arguing that a device that cannot measure reflected radiation independent of direct radiation, infringes.

There is no infringement under the doctrine of equivalents.

#### **IV. CONCLUSION**

IPT's motion is **GRANTED**. Summary judgment is entered in favor of IPT on Counts One and Two; there is no infringement of patents '424 and '177. IPT's device is not engineered to solely measure reflected radiation.

Lumalier's counterclaims are **DISMISSED**.

Trial will proceed on:

- I. Tortious interference with business relations: claim unrelated to patent infringement assertions (Count Four);
- II. Injurious falsehood, defamation and slander: claim unrelated to patent infringement assertions (Count Five);
- III. Tortious interference with business relations: claim related to patent infringement assertions (Count Seven); and
- IV. Injurious falsehood, defamation and slander: claim related to patent infringement assertions (Count Eight).

**IT IS ORDERED.**

S/Victoria A. Roberts

Victoria A. Roberts

United States District Judge

Dated: May 9, 2013

The undersigned certifies that a copy of this document was served on the attorneys of record by electronic means or U.S. Mail on May 9, 2013.

S/Linda Vertriest

Deputy Clerk